

**Montana Board of Oil and Gas Conservation
Environmental Assessment**

Operator: Continental Resources, Inc.
Well Name/Number: Amestoy 1-6H
Location: SW SW Section 6T25N R54E
County: Richland, **MT;** **Field (or Wildcat)** W/C (Bakken Horizontal)

Air Quality

(possible concerns)

Long drilling time: No, 35 to 40 days drilling time.

Unusually deep drilling (high horsepower rig): No, triple derrick drilling rig, 1000 HP, to drill to 19,013'MD/9,504'TVD a single lateral Bakken Formation horizontal well test.

In/near Class I air quality area: No Class I air quality area.

Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under 75-2-211.

Mitigation:

- ☒ Air quality permit (AQB review)
- ☐ Gas plants/pipelines available for sour gas
- ☐ Special equipment/procedures requirements
- ☐ Other: _____

Comments: No special concerns – using triple rig to drill to 19,013'MD/9,504'TVD, a single lateral Bakken Formation horizontal well test.

Water Quality

(possible concerns)

Salt/oil based mud: Yes, freshwater and freshwater mud system on surface hole, oil based invert mud system on mainhole and saltwater brine for the horizontal hole.

High water table: Possible

Surface drainage leads to live water: No, closest drainages are unnamed ephemeral tributaries to Middle Charlie Creek, about ¼ of a mile to the southeast and about 3/8 of a mile to the north of this location. Middle Charlie Creek has ponds within the drainage.

Water well contamination: No, nearest water wells are about 1/2 of a mile to the north, 5/8 of a mile to the northeast and ¾ of a mile to the southwest from this location. Depth of stock and domestic water wells are from 14' to 232'. Surface hole will be drilled with freshwater and freshwater muds. Surface casing will be set at 1580' and cemented to surface.

Porous/permeable soils: No, silty sandy clay soils.

Class I stream drainage: No

Mitigation:

- ☒ Lined reserve pit
- ☒ Adequate surface casing
- ☐ Berms/dykes, re-routed drainage
- ☐ Closed mud system
- ☐ Off-site disposal of solids/liquids (in approved facility)
- ☐ Other: _____

Comments: 1580' of surface casing cemented to surface adequate to protect freshwater zones.

Soils/Vegetation/Land Use

(possible concerns)

Stream crossings: No, crossings required.

High erosion potential: No, small cut, up to 7.7' and moderate fill, up to 11.1', required.

Loss of soil productivity: No, location will be restored after drilling, if nonproductive. If productive unused portion of drillsite will be reclaimed.

Unusually large wellsite: No, large wellsite, 500'X270' location size required.

Damage to improvements: Slight, surface use is cultivated land.

Conflict with existing land use/values: Slight

Mitigation

☐ Avoid improvements (topographic tolerance)

☐ Exception location requested

☒ Stockpile topsoil

☐ Stream Crossing Permit (other agency review)

☒ Reclaim unused part of wellsite if productive

☐ Special construction methods to enhance reclamation

☒ Other Requires DEQ General Permit for Storm Water Discharge Associated with Construction Activity, under ARM 17.30.1102(28).

Comments: Will use existing county road, #321 and #141. About 80' of new access road will be built into this location, off county road, #141. Drill cutting will be disposed of in the lined reserve pit. Oil based drilling fluids will be recycled. Reserve pit fluids will be recycled and haul to a commercial disposal. Lined reserve pit will be backfilled when dry. No special concerns

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: Closest buildings are 3/8 of a mile to the northeast, 5/8 of a mile to the northeast and 3/4 of a mile to the west from this location.

Possibility of H2S: Slight

Size of rig/length of drilling time: Triple drilling rig/short 35 to 40 days drilling time.

Mitigation:

☒ Proper BOP equipment

☐ Topographic sound barriers

☐ H2S contingency and/or evacuation plan

☐ Special equipment/procedures requirements

☐ Other: _____

Comments: Adequate surface casing and operational BOP should mitigate any concerns.

Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): None identified.

Proximity to recreation sites: None identified.

Creation of new access to wildlife habitat: No

Conflict with game range/refuge management: No

Threatened or endangered Species: Species identified as threatened or endangered are the Pallid Sturgeon, Interior Lease Tern, Whooping Crane and Piping Plover.

Candidate specie is the Greater Sage Grouse.

Mitigation:

- ☐ Avoidance (topographic tolerance/exception)
- ☐ Other agency review (DFWP, federal agencies, DSL)
- ☐ Screening/fencing of pits, drillsite
- ☐ Other: _____

Comments: Private cultivated surface lands. No concerns

Historical/Cultural/Paleontological

(possible concerns)

Proximity to known sites: None identified

Mitigation

- ☐ avoidance (topographic tolerance, location exception)
- ☐ other agency review (SHPO, DSL, federal agencies)
- ☐ Other: _____

Comments: No, private cultivated surface lands. No concerns.

Social/Economic

(possible concerns)

- ☐ Substantial effect on tax base
- ☐ Create demand for new governmental services
- ☐ Population increase or relocation

Comments: No concerns

Remarks or Special Concerns for this site

Well is a 13,013'MD/9,504'TVD a single lateral Bakken Formation horizontal well test.

Summary: Evaluation of Impacts and Cumulative effects

No long term impact expected, some short term impacts will occur.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/Steven Sasaki

(title:) Chief Field Inspector

Date: September 09, 2010

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website

(Name and Agency)

Richland County water wells

(subject discussed)

September 2, 2010

(date)

US Fish and Wildlife, Region 6 website

(Name and Agency)

ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES

MONTANA COUNTIES, Richland County

(subject discussed)

September 2, 2010

(date)

Montana Natural Heritage Program Website

(Name and Agency)

Heritage State Rank= S1, S2, S3

(subject discussed)

September 9, 2010

(date)

If location was inspected before permit approval:

Inspection date: _____

Inspector: _____

Others present during inspection: _____